



Department for
Business, Energy
& Industrial Strategy

NATIONAL EMERGENCY PLAN

Downstream Gas and Electricity

November 2019



OGL

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1 General Information/ Introduction

1.1. The Department for Business, Energy & Industrial Strategy (BEIS) works with industry, regulators, sector bodies and other stakeholders to improve and maintain the resilience of the energy infrastructure, networks and assets, to reduce vulnerabilities, and ensure an effective response to actual or potentially disruptive incidents.

1.2. This document presents the National Emergency Plan: Downstream Gas & Electricity (NEP), and describes the national arrangements established between BEIS, the downstream gas and electricity industry, the Office of Gas and Electricity Markets (Ofgem) and the European Commission and other interested parties for the safe and effective management of both downstream gas and electricity supply emergencies.

1.3. Although separate requirements for gas and electricity emergencies exist under sector specific legislation; there are significant interdependencies that exist between the two and the overarching response structure is the same. Therefore, this plan is maintained as one document to ensure consistency in the annual review cycle. Generic arrangements are described in the main body of this plan, with sector specific requirements and arrangements described in the relevant annexes. This plan does not cover response arrangements within individual organisations, who maintain their own detailed operational response procedures.

1.4. The purpose of this document is to support the UK Government's robust emergency planning across the downstream gas and electricity sectors. Additionally, within the gas sector, the EU Regulation Security of Gas Supply 2017/1938 (Regulation 2017/1938) sets out measures to safeguard the security of gas supply, including making provisions for the requirement and publication of this plan setting out gas safety emergency arrangements. This document is prepared in accordance with the requirements of the Regulation.

1.5. The National Preventive Action Plan (PAP) for gas has also been developed alongside this revision of the NEP and the regional cooperation mechanisms and agreements relating to managing emergencies across Northern Ireland and the Republic of Ireland are referenced in the PAP.

Scope

1.6. This plan applies to the downstream gas supply network from reception terminals and storage sites to consumer isolation valves, as well as the electricity supply network from generators to consumers' meters in Great Britain.

1.7. Energy Policy for Northern Ireland is devolved to the Northern Ireland Assembly. The Department of Enterprise, Trade and Industry in Northern Ireland (DFE) maintain their own procedures for responding to gas and electricity emergencies. However, the arrangements for managing gas supply emergencies in Northern Ireland in terms of interactions between DFE, BEIS and the European Commission are covered in this plan.

Purpose of this Document

1.8. The National Emergency Plan- Downstream Gas & Electricity:

- Describes the joint industry/government arrangements in place for the effective management of downstream gas or electricity supply emergencies in the UK.
- Defines the roles and responsibilities of all parties involved in the emergency response;
- Details the arrangements for the safe management of the consequences of emergencies; and
- Describes the arrangements for management of the interactions with connected systems, for example through the EU Gas Coordination Group.

Governance

1.9. BEIS as the UK Competent Authority and Lead Government Department (LGD) for gas and electricity emergencies is responsible for the development, review, updating and testing of the arrangements contained in this document. Updated documents will be approved by the appropriate BEIS Minister.

1.10. The Energy Emergencies Executive (E3) has been established with representation from BEIS, Ofgem and National Grid to consider the risks to the supply of gas and / or electricity to consumers and identifying ways to manage these risks.

1.11. Detailed emergency planning activities are undertaken by the joint industry and government emergency planning body, the Energy Emergencies Executive Committee (E3C) and associated Task Groups, reporting to E3. This body, and its Task Groups, consists of experts drawn from the gas and electricity industries as well as government, agencies, regulators, Trade Associations and Industry Bodies.

1.12. E3C maintain oversight of the NEP to ensure it incorporates identified best practice in emergency response, learning from emergency exercises, and amendments to the process resulting from changes in the structure of the industry.

1.13. The NEP is subject to annual review.

2. Definition of Crisis Levels

Crisis levels used in response

2.1. Crisis levels are intended to ensure there is a consistent approach to the assessment of an emergency situation and to confirm that an appropriate level of response is implemented locally, nationally, and across the European Union, as required.

2.2. BEIS will determine the crisis level following discussions with key industry responders and wider HM Government stakeholders and evaluating the need to activate a central government response, notifying responders accordingly.

2.3. The Crisis Levels are shown and described in the following table, figure 1.

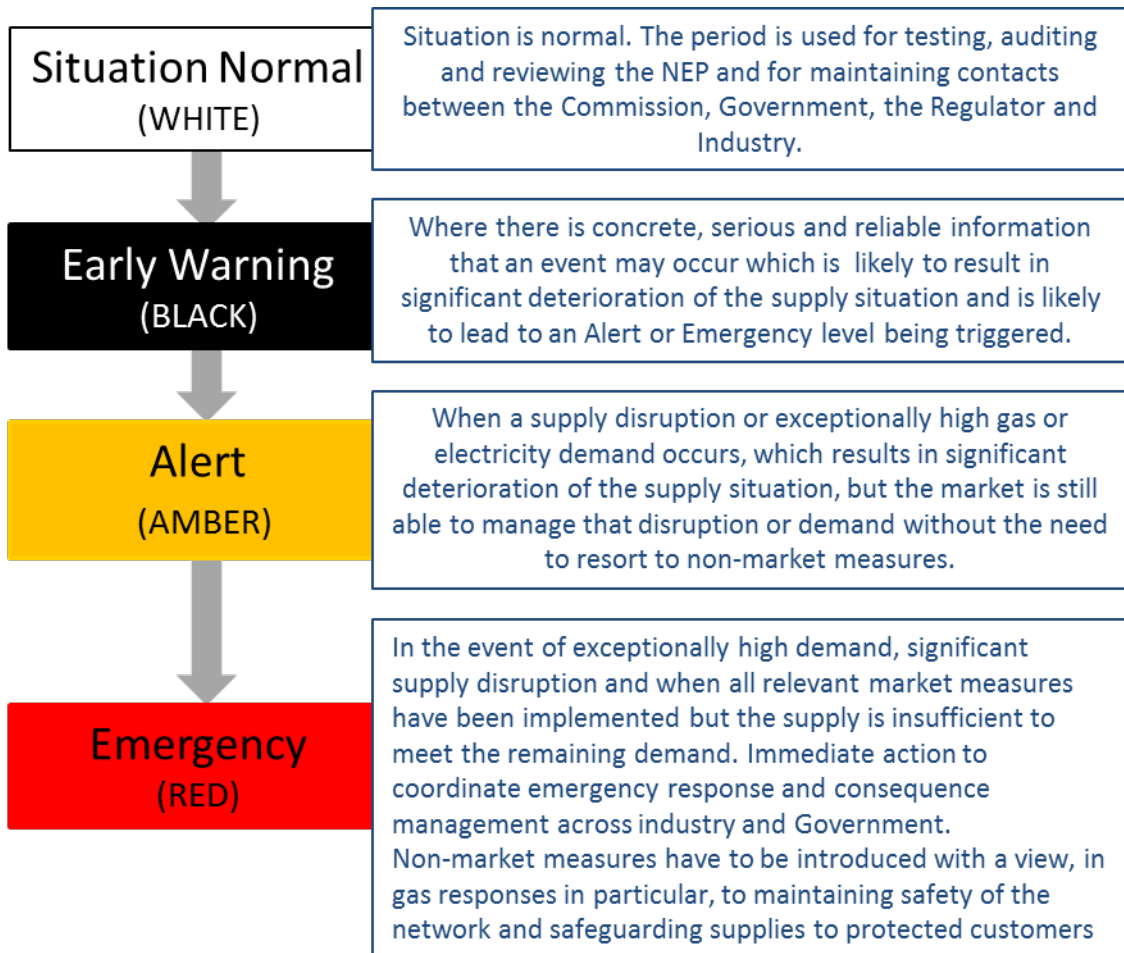


Figure 1 - Crisis Level Status

3. Measures to be adopted per crisis level

3.1. Appendixes I and II provide the sector specific guidance for Gas and Electricity respectively. Below details the overarching operation response to an emergency.

3.2. Following activation of an emergency response, individual organisations will be responding and operating according to their agreed internal procedures. This section does not provide detailed guidance for individual organisations but sets out the overarching response structure, interactions between organisations, identifying the communication routes and reporting procedures.

National Emergency

3.3. BEIS is the Lead Government Department (LGD) for energy supply emergencies as set out in the UK Government arrangements for responding to an emergency ('CONOPS') and outlined in this document.

3.4. The National Security Council (Threats, Hazards, Resilience and Contingencies), or NSC (THRC), is responsible for managing the cross-government response to a national energy emergency and operates the Cabinet Office Briefing Rooms (COBR). NSC (THRC) will only convene if the emergency is of a sufficient level. In the event of an incident in Scotland, the Scottish Government would activate its Scottish Government Resilience Room (SGoRR) and is responsible for the consequence management aspects of the incident.

3.5. The gas and electricity industries are responsible for the operational management of an emergency, for notifying BEIS and ensuring that appropriate information is provided to the central government response to inform effective strategic decision making as required.

3.6. Industry will also interface directly with the local Strategic Coordination Groups (SCGs) on local issues and for consequence management. This is often through a utilities sub-group though arrangements vary across SCGs. The Resilience & Emergencies Division of Ministry of Housing, Communities & Local Government (MHCLG) in England, and Devolved Administrations, provide a link to central government for local responders, and may facilitate groups or mechanisms to co-ordinate emergencies that overwhelm individual LRF boundaries or resources.

3.7. The following diagram, figure 2, describes the relationships for a national gas or electricity supply emergency, recognising that a response may include one or both sectors, given the close interactions between the two.

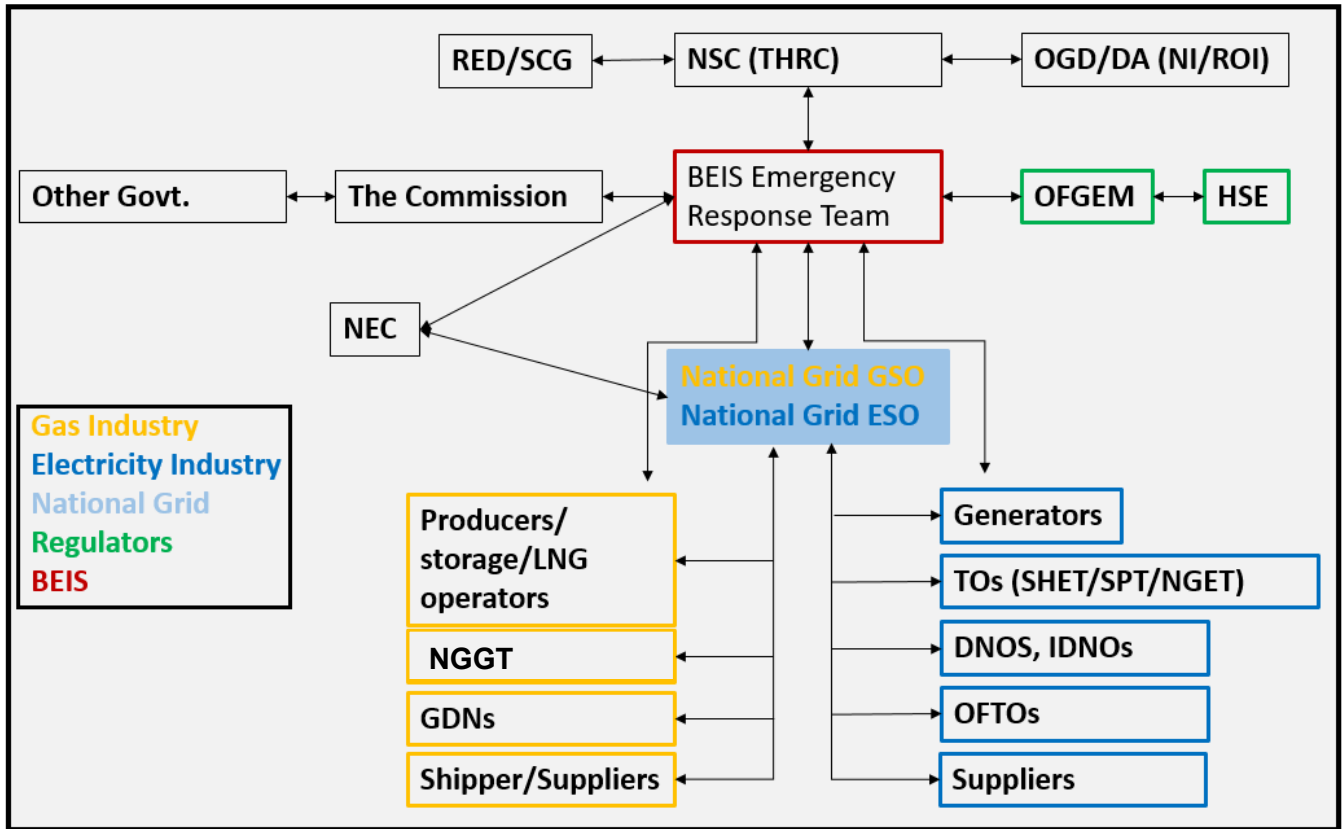


Figure 2 – Operational Response (National Emergency)

Situational Assessment and Management

3.8. The key tasks in the co-ordinated response are shown in the following figure 3:

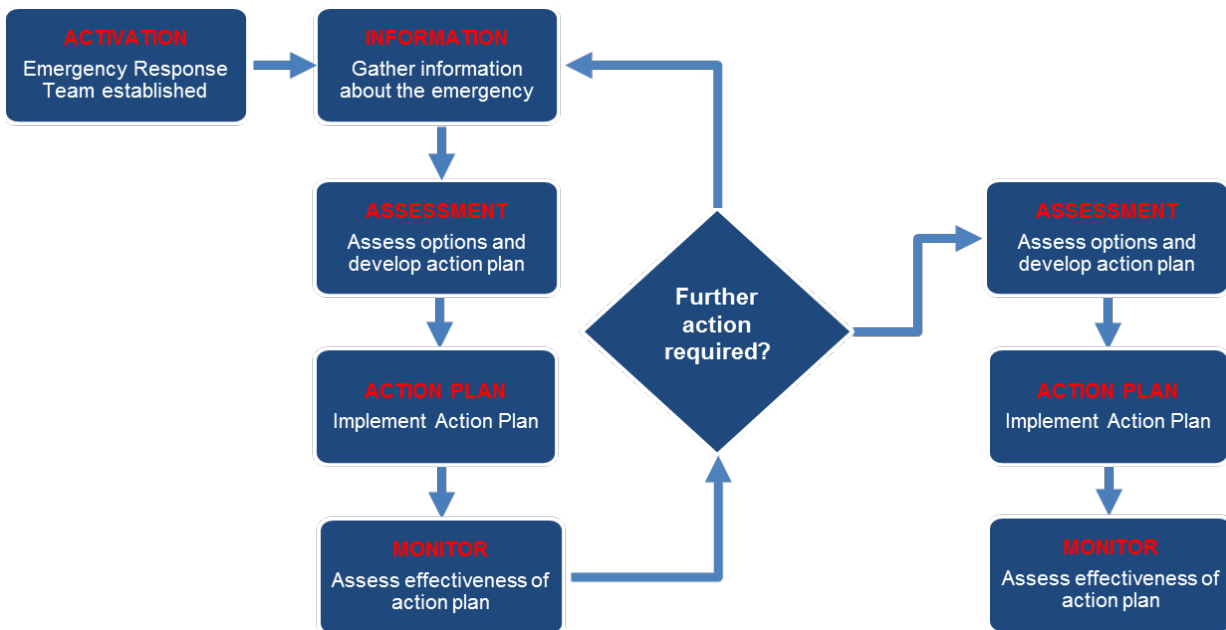


Figure 3 – Co-ordinated response tasks

Information Management

3.9. Developing and maintaining situational awareness amongst all responders is a key requirement for the effective management and response to the emergency. Types and sources of information and interested stakeholders are given in the following table, figure 4.

Information	Sources/Stakeholders
Cause of the emergency	Industry
Scale and duration of the emergency	Industry
Timescale for restoration	Industry
Government powers required	Industry/BEIS/HMG
Actions already taken	Industry/BEIS/HMG
Customer issues (including priority users)	Industry
Market issues	Ofgem
Gas/electricity supply/demand balance	National Grid (NG) ESO/GSO
Actions to increase gas/electricity supply	NG ESO/GSO/Industry
Actions to decrease gas/electricity demand	NG ESO/GSO/Industry
Societal impacts (health/transport/essential services)	OGDs
Security issues	Security Services
Media interest	Industry/BEIS/HMG
Media lines-to-take	Industry/BEIS/HMG

Figure 4 Types and Sources of Information and interested Stakeholders.

Industry Data Reporting

3.10. To fulfil its LGD responsibilities, BEIS will require industry data on a regular basis (see battle rhythm section below). All information will be provided by industry in an appropriate format agreed with BEIS. A BEIS Incident Reporting Framework (see Annex V) is in place specifically for disruption scenarios. Any differing requirements will be communicated with industry at the early stage of a response and kept under review throughout. This process will enable the information from all providers to be readily assimilated for onward communication, including to COBR and wider government, and with key stakeholders.

Assessment and action plan

3.11. Assessment of the information will consider the following issues:

- Immediate actions required to protect life and property and to prevent the further escalation of the emergency;
- Longer-term actions required to manage the consequences and assist with recovery; and
- Ownership for the actions and any requirement to implement government emergency powers.

3.12. The purpose of the Emergency Response Team (ERT) is to develop a strategy and action plan that will result in appropriate and cohesive actions to manage the incident consequences. The action plan is intended to assist with the management of the consequences of the emergency and to support industry in containing and resolving the incident. It is not intended to directly control the technical response of industry to the emergency.

3.13. Specifically, the ERT will:

Identify gas and electricity supply priorities arising from the incident:

- Identify the consequences of the emergency for Other Government Departments;
- Develop and make recommendations to government on strategic options;
- Request emergency powers to manage the incident, as appropriate; and
- Inform the Network Emergency Controller (NEC) regarding the wider aspects of a gas supply emergency.

3.14. In developing strategic options to address a gas and/or electricity supply emergency the ERT will take account of:

- Public safety;
- Protection of property and key infrastructure;
- Maintenance of national economic performance; and
- Public and media communication.

3.15. Communication with both the public and media during an emergency response is a critical function and it is vital that external communications are co-ordinated, consistent, clear and timely. To ensure effective co-ordination of messages detailed arrangements have been established between industry partners and with BEIS and there are supporting procedures and best practice guides in place, which include the need for early activation and regular communication between responders. These arrangements are subject to regular review by the Communications Task Group of E3C and are maintained separately to this NEP.

Battle rhythm

3.16. Following activation of a response, BEIS will set out a battle rhythm and communicate this to all relevant stakeholders. The battle rhythm will set the pace and tempo of the response, taking account of key milestones and events such as meetings and teleconferences and the major actions necessary to support these milestones. The battle rhythm will identify key timings and deadlines for submission of information or implementation of actions. The battle rhythm will be reviewed regularly and updated as appropriate.

Procedures for stand-down / closure and review

3.17. It is the responsibility of BEIS, as LGD, to confirm the closure of the emergency response phase of an emergency. BEIS will liaise with industry, and Other Government Departments, including the Civil Contingencies Secretariat, in making this decision, and will ensure this is communicated to all stakeholders. Some scenarios may result in longer term actions to support the return to normality (the 'recovery phase'). In such scenarios, BEIS will maintain its lead co-ordination role, providing support to industry and updates to central government as appropriate.

3.18. Following closure of a response, BEIS will lead a review of the incident to ensure any lessons are identified, taking account of the views of key stakeholders. The review will consider the following issues and will report to E3C:

- The effectiveness of the emergency response and the NEP;
- The nature of the emergency including cause, course and consequences;
- Quality and effectiveness of internal and external communications;
- Actual outcome against desired/anticipated outcome; and
- Action plan to address identified deficiencies⁷ in the NEP.

4. Specific measures for the electricity generation sector and district heating

4.1. District Heating: The UK does not currently have specific measures in place relating to how district heating is protected during a gas emergency, due to the very low number of district heating networks currently operating in the UK. However as works continues on the development of the use of district heating to meet the UK's low carbon obligations, resilience measures will be considered as part of this work.

4.2. Electricity generated from gas: As part of the response to a stage 2 gas supply emergency, there will be a suspension of National Grid Gas System Operator's participation in the gas trading market. This will maximise supplies to the national transmission system, and the interruption of large industrial demands including electricity power station system, to prevent unacceptably low gas pressures on the system. This will therefore impact on electrical generation from gas powered power stations. How these impacts will be mitigated are detailed in Annex 1 of this document.

5. Crisis manager or team

5.1. The following section describes the measures taken during a crisis in regard to notification and activation routes, both for during office hours, and out of hours. As an incident may be identified through unexpected routes, all organisations will alert their counterparts as soon as an emerging incident is identified.

Activation of a BEIS Led Central Government Response

The arrangements for activating the plan are summarised in the following diagram:

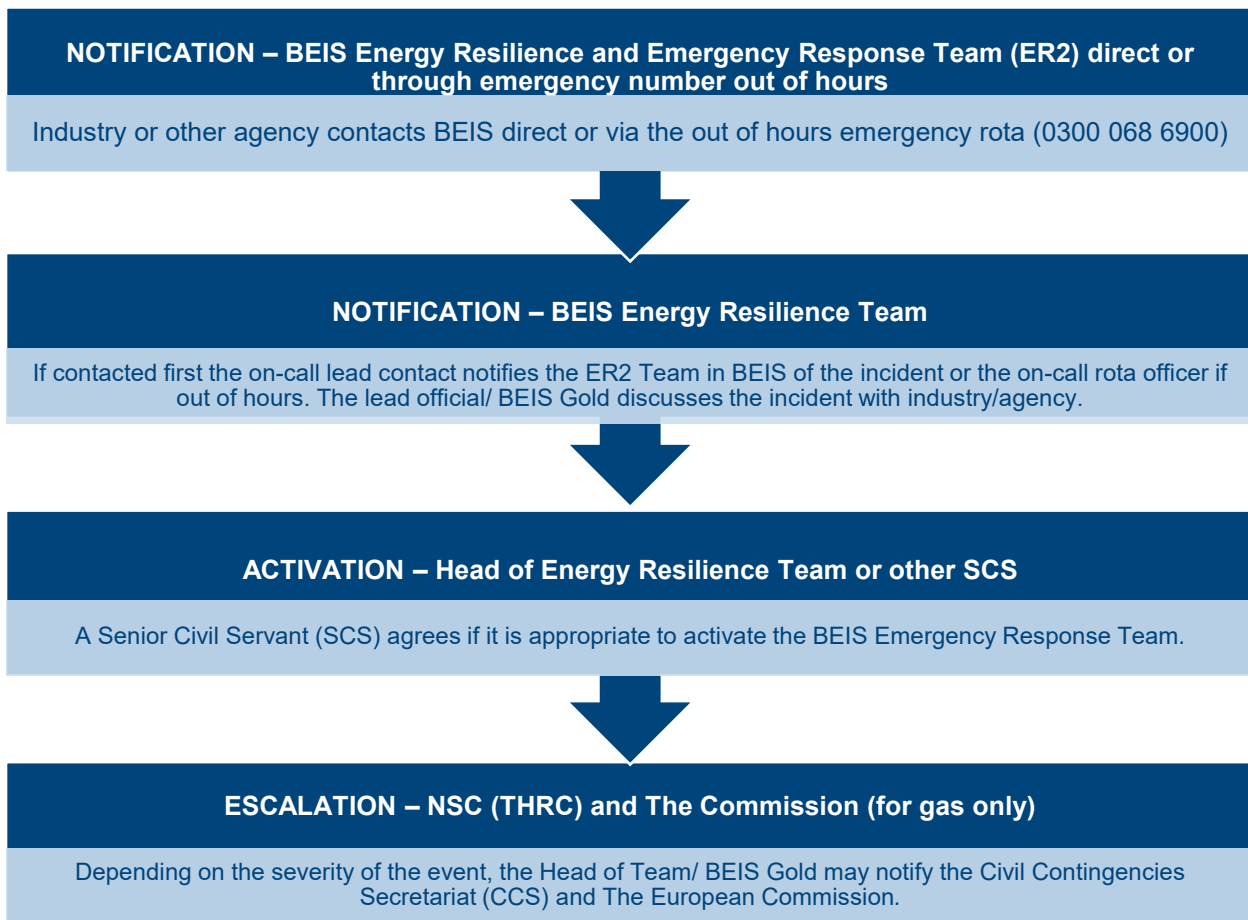


Figure 5 – ERT Activation

5.2. When industry activates a response to an incident, or identifies an emerging incident, the relevant responsible person from industry will contact a member of the BEIS Energy Resilience Team, or, the on-call sector officer/lead contact. Out of hours notification is made via the on-call lead contact, who will notify the relevant BEIS on-call sector officer. Where BEIS identify an actual or potential incident through other routes, BEIS will alert relevant industry stakeholders. All parties are expected to maintain and share emergency contact details where appropriate.

5.3. BEIS will make an initial evaluation of the incident and decide if it is necessary to activate a BEIS Emergency Response Team (ERT). If activated, BEIS will determine the crisis level,

activate emergency response in accordance with BEIS procedures, and advise stakeholders accordingly. BEIS is responsible for liaison across Government, including with the Civil Contingencies Secretariat, to consider if the event requires a COBR activation. The crisis level is kept under regular review. BEIS will, in consultation with industry and government stakeholders, regularly review the crisis level and decide if any changes should be made, notifying all interested parties.

5.4. The functions of the ERT include:

- Strategic Leadership and Coordination
- Industry Liaison
- Information Management
- Operations
- Specialist Support

5.5. The membership of the ERT is determined by BEIS Gold based on the nature of the incident. The timing, method and location of ERT meetings will also be decided by the BEIS Gold.

5.6. As part of ensuring an effective co-ordinated response, BEIS may ask industry or regulators to embed staff as liaison officers in the BEIS ERT, thereby forming a joint response. Full membership of a BEIS ERT is shown in Figure 6.

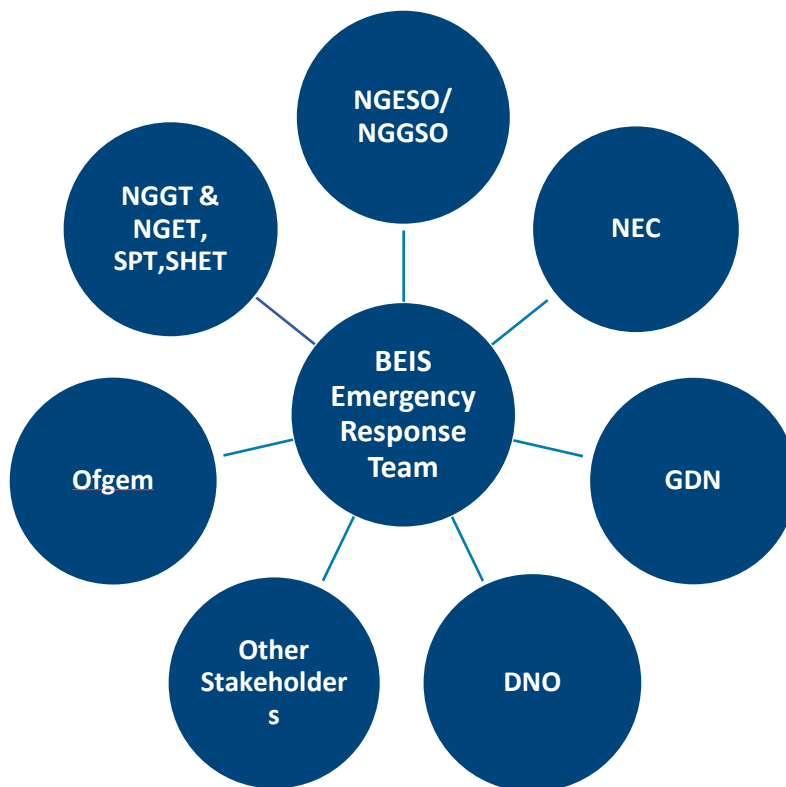


Figure 6 – Structure of ERT

6. Roles and Responsibilities of different actors.

6.1. The following table, figure 7, outlines the general roles and responsibilities of all parties involved in operational response and emergency planning. Roles specific to each crisis stage are outlined in annexes I and II.

Organisation	
BEIS	<p>BEIS is the Lead Government Department for energy supply emergencies under “Concept of Operations (CONOPs)” – The UK Central Government Arrangements for Responding to an Emergency. In the event of an emergency BEIS will exercise its responsibilities as set out in CONOPs including assessing the situation and providing coordinated policy advice and other support as necessary to local responders, providing the interface between industry and central government.</p> <p>BEIS, as the Competent Authority and Lead Government Department has responsibility for assisting with the management of the consequences of any emergencies and supporting the undertakings in managing any supply disruptions.</p> <p>The BEIS response will be run an Emergency Response Team (ERT) led by a senior official – BEIS Gold, who has the responsibility for the categorisation of the crisis level and the management of the crisis level communications with other Competent Authorities and the European Commission for gas emergencies.</p> <p>Typical membership of an ERT is shown in figure 3 above, however this could vary on a case by case basis and could involve other parties e.g. Suppliers as required.</p>
NSC (THRC)	<p>The National Security Council (Threats, Hazards, Resilience and Contingencies) operates from the Cabinet Office Briefing Rooms (COBR) and manages the central government response to emergencies including in the energy sector.</p>
NEC	<p>The Network Emergency Co-ordinator (NEC) is an independent role, whose legal obligation is to co-ordinate actions across the affected parts of the gas network to minimise the possibility of a gas supply emergency developing, and where one does develop, to minimise the safety consequences in accordance with the requirements of the Gas Safety (Management) Regulations 1996 (GS(M)R).</p> <p>A supply emergency could result from a Network Gas Supply Emergency (NGSE) or a Local Gas Supply Emergency (LGSE). The NEC role is independent from the commercial interests of industry participants. The NEC is responsible for declaring an NGSE and</p>

	authorising the strategy proposed by National Grid Gas System Operator (NGGSO) to resolve the emergency.
National Grid	<p>National Grid Gas System Operator (NGGSO) is the GB operator of the gas National Transmission System (NTS) and is responsible for coordinating the response to any gas supply emergencies. National Grid Gas Transmission (NGGT) is the asset manager and owner of the NTS.</p> <p>National Grid Electricity System Operator (NGESO) is the GB operator of the electricity the National Electricity Transmission System (NETS) and is responsible for coordinating the response to electricity supply emergencies. National Grid Electricity Transmission (NGET) is the asset manager and owner of the England and Wales part of the NETS. Note that NGET network owners in Scotland are Scottish Power Transmission (SPT) & Scottish Hydro Electricity Transmission (SHET). NGGSO & NGGT as regulated under one Transmission licence, whereas NGESO & NGET licences will be split, effective from 1st April 2019.</p> <p>An emergency affecting the NTS is known as a Network Gas Supply Emergency (NGSE). NGGSO is responsible for developing the emergency strategy to resolve an NGSE for authorisation by the Network Emergency Co-ordinator (NEC). Once authorised, NGESO, in conjunction with the other natural gas undertakings and industrial gas consumers, will implement the emergency strategy. NGESO will also provide information to BEIS during the emergency.</p> <p>Similarly, the strategy for management of an emergency affecting the NGET system is developed by NGESO and implemented in conjunction with TOs, DNOs, generators and other industry participants, as required.</p> <p>NGESO also directs and controls operations across the Offshore Transmission Owners (OFTOs) windfarm networks around GB's coasts.</p>
DNOs	The electricity Distribution Network Operators own and operate the regional electricity networks and manage local electricity supply emergencies affecting their own networks. The DNOs also provide information to BEIS during an emergency.
GDNs	The GDNs own and operate the local gas transmission and distribution systems supplied by the NTS. An emergency affecting a GDN is known as an LGSE. The GDN Operators are responsible for managing local emergencies affecting their own networks and co-operating with the NEC and NGGSO in managing an emergency on the NTS. The GDN Operators also provide information to BEIS during an emergency.
Energy Network Association (ENA)	ENA will support in the co-ordination and delivery of a national media strategy in the event of a national gas or electricity disruptive event.
Shippers and Suppliers	Shippers, who feed into the gas system, and suppliers who provide gas and electricity directly to consumers are responsible for communication with their customers in an emergency.

Gas Producers and Storage Operators	Gas producers and storage facility operators are responsible for maximising gas supplies if directed. Whilst it is the responsibility of the Shippers to maximise terminal delivery in an emergency, it is the responsibility of the storage operator to maximise storage withdrawal if requested.
Generators	Electricity generators are responsible for maximising electricity supply in an emergency, if directed. Note that a significant proportion (on average, around 30 to 40%) of electricity generation is from gas-fired power stations, called Combined Cycle Gas Turbine (CCGT) plant.
Gas Interconnectors & LNG Operators	Interconnectors which operate pipelines connecting with continental gas supplies and Liquefied Natural Gas (LNG) facility operators which receive cargoes of LNG and feed it into the UK system, are responsible for maximising gas supplies in an emergency, if directed.
Industrial Gas Consumers (including electricity generators)	Industrial gas consumers connected to the NTS or to a GDN, including electricity generators, are required to co-operate with the NEC during an NGSE. Industrial gas consumers may be required to reduce or cease gas consumption if requested to do so by NGGSO or the GDN Operator in the event of an NGSE and/or LGSE.
Ofgem	<p>Ofgem, as the National Regulatory Authority in GB, is responsible for regulating the gas and electricity markets in England, Wales and Scotland. Ofgem is responsible for ensuring market arrangements are established and maintained which minimise the possibility of gas or electricity supply disruptions.</p> <p>In an emergency impacting the operation of the regulated or licenced gas and electricity markets Ofgem would form part of the ERT. Its role includes providing guidance on market operation, industry codes and regulatory arrangements.</p>
HSE	The Health and Safety Executive (HSE) is responsible for safety legislation and may grant exemptions to safety regulations in an emergency, if appropriate.
EA/SEPA/NRW	The Environment Agency (EA), Scottish Environment Protection Agency (SEPA) and Natural Resources Wales (NRW) are responsible for environmental legislation and may grant exemptions to environmental regulations in an emergency, if appropriate.
MHCLG Resilience & Emergencies Division	The Ministry for Housing, Communities and Local Government (MHCLG) Resilience & Emergencies Division (RED) are responsible for co-ordinating information from multiple Local Resilience Forums (LRFs) and Strategic Co-ordination Groups (SCGs) to generate situational awareness across all areas affected, to identify strategic challenges and co-ordinate central response with SCGs.
Local Resilience Forums (LRFs)	LRFs are multi-agency partnerships made up of representatives from local public services, including the emergency services, local authorities, the NHS, the Environment Agency and others (Category 1 responders),

	<p>supported by Category 2 responders, as defined by the Civil Contingencies Act.</p> <p>LRFs are responsible for planning and preparation for localized incidents and catastrophic emergencies. They work to identify potential risks and produce emergency plans to either prevent or mitigate the impact of any incident on their local communities.</p>
Strategic Co-ordination Groups (SCG)	<p>LRFs will establish an SCG (also referred to as 'Gold Co-ordinating Group') to provide strategic leadership throughout the course of an emergency and/or major incident. An SCG is responsible for managing the civil consequences of an emergency within their designated operational area, and for communicating with the central Government response, when activated.</p>

Figure 7 – Organisational Roles & Responsibilities

7. Measures regarding undue consumption by customers who are not protected customers

7.1. During an emergency the flow of gas is controlled; the NEC will request users to stop using gas and from that point it will be illegal for them to continue to flow gas.

7.2. National Transmission System (NTS) sites exercise every year to ensure they are aware of the process and therefore should stop taking gas when requested. However, if they do not National Grid have the right to shut off supply to them. All sites are metered, and their flow rates observed.

7.3. For GDNs the process is practiced every year for the largest 200 sites in each Local Distribution Zone (2,600 sites Nationally) to ensure these sites know the procedure. If there is an issue the GDN can go directly to the site and close the valve. There is no direct telemetry for the sites for these top 200 sites, so the GDNs will not know if they have stopped flowing. The same laws apply, so if they do not comply they can be prosecuted.

8. Emergency Tests

8.1. The Energy Resilience and Emergency Response Team is responsible for the development and implementation of downstream gas emergency arrangements and approves the National Emergency Plan.

8.2. ER2 is responsible for running an exercise programme for the NEP to test the effectiveness of the plan and operational arrangements. Where appropriate this exercise will be carried out in conjunction with other exercises being carried out by industry, government and/or the NEC. A major exercise on the NEP will be carried out periodically including from time to time a test of electricity interactions. Desktop exercises may also be undertaken to ensure that the plan is subject to annual test.

8.3. The scope of major exercises will be agreed with E3 and an Exercise Director appointed. The Exercise Director will provide a full report to E3 and BEIS, including an action plan, detailing improvements to existing arrangements and timescales for delivery.

8.4. The NEC will run annual cross-industry/HMG exercise to test the emergency arrangements in place to manage an NGSE as part of its safety case obligations. The NEC will prepare a report providing the results of these exercises and identifying recommendations to improve the emergency arrangements which will be made available to all industry participants by the HSE.

9. Regional Dimension

9.1 The United Kingdom Risk Supply Group comprises the United Kingdom, Belgium, Germany, Ireland, Luxembourg and the Netherlands. The group operates on a consultative basis with the drafting of this chapter agreed in consultation with its members.

9.2 Regulation 2017/1938 requires that detailed procedures and measures are to be followed for each Crisis Level, closely collaborating with Member States within the Group and other neighbours where relevant. This chapter sets out the requirements for risk group to coordinate actions at each crisis level. Specific details within the procedures and measures will vary between Member States depending on national arrangements within Member States. Detail on the UK emergency response plan, within the overall framework set out in Regulation 2017/1938, is set out in Chapter 10.

9.3 **UK / Ireland Co-operation.** The UK and Ireland already have a mature vehicle for regional co-operation to ensure that the gas emergency operational plans of the jurisdictions work together. This is achieved through the development of protocols between the TSOs and modifications to emergency plans identified following joint emergency exercises. A GB/NI/IE Gas Emergency Group, comprising representatives from governments, regulators and TSOs from the three jurisdictions meets every six months to discuss matters of mutual interest and complements these arrangements and the regional approach to emergency planning

9.4 **UK Risk Supply Group Co-operation.**

Risk group actions on declaring a crisis level

9.5 On the declaration of a crisis level, the relevant group Member State will undertake to immediately contact all other Member States within the United Kingdom Risk Group and other neighbouring Member States if appropriate. It will also contact the Commission. As the crisis is managed it will stay in regular contact with the Member States and update them and the Commission whenever the crisis level changes.

9.6 The Member State undertakes to provide the information listed below:

9.7 The Member state will identify the crisis level (Early Warning, Alert Level or Emergency Level).

9.8 The Member State will provide a description of the incident or information leading to the declaration of the crisis level, covering:

- (i) The date, time and duration of the incident;
- (ii) The nature of the incident or threat;
- (iii) The location of the incident;
- (iv) The gas volumes affected;
- (v) The origin of the incident;

9.9 As set out in Regulation 2017/1938, for the Early Warning and Alert levels, details will set out the market-based measures being adopted including:

- (i) A brief description of the measure and main actors involved;

- (ii) An indication whether these measure are sufficient to deal with the crisis and if not, a brief description of the additional measures that can be taken; and
- (iii) An indication whether cross border effects are to be expected in the other group Member States (For example increased imports from that Member State).

9.10 For Emergency level, the details will include:

The actions being taken on the supply and demand side to make gas available, including commercial agreements between the parties involved and any compensation mechanisms for natural gas undertakings where appropriate;

A brief description of the market-based measures still being applied at this stage and the main actors involved, indicating the expected contribution of the measures to mitigate the situation at emergency level and the contribution still needing to be covered by non-market-base measures.,

The non-market-based measures planned or to be implemented for the emergency level, indicating, per measure:

- (i) A brief description of the measure and main actors involved;
- (ii) the preferred order in which they should be implemented, taking into account the circumstances of the crisis;
- (iii) indicate the expected contribution of the measures to mitigate the situation at emergency level as a complement to market-based measures;
- (iv) assess other effects of the measure, with an attention to possible cross-border effects in other group Member States.

Cooperation Mechanisms

9.11 The Regional Coordination (ReCo) System for Gas has been established by ENTSOG (European Network of Transmission System Operators for Gas) as a means for the Member States' Transmission System Operators to share information when one of the three levels is activated. The aim of the ReCo is to provide a wide view and provide information around the situation. Information which group Member States undertake to share during an incident will comprise:

- information about the incident level according to the ICS
- existing or possible consequences of the incident
- short description of the situation

9.12 The group Member States participating in the telephone conference will undertake to provide the following information as part of that conference:

- Restrictions
- Pressure in the system
- Capacity utilisation (focused on relevant points or system)
- Underground gas storage information
- LNG utilization
- Level of demand

- Crisis Level
- Trend of prices for balancing gas
- Availability of balancing gas
- Maintenance
- Additional available flows from production

9.13 Using the ReCo system the group Member States undertake to participate in regular telephone conferences which enable sharing information around best practice and lessons lea

9.14 The Member State within which the incident has occurred has the responsibility for first activating the ReCo team.

Solidarity Among Member States

9.15 Pursuant to Article 13 of Regulation 2017/1938, the Member States of the United Kingdom Risk Group are currently in the process of developing arrangements for Solidarity measures with their respective directly interconnected Member State neighbours.

10. Appendix I: Managing Downstream Gas Emergencies - Gas sector specific arrangements

Introduction

10.1. Specific procedures and requirements for responding to gas sector emergencies are covered in this appendix. This appendix should be read in conjunction with the main body of the plan.

Legislative Framework

10.2. The EU Regulation Security of Gas Supply 2017/1938 (Regulation 2017/1938) sets out measures to safeguard the security of gas supply, including making provisions for the requirement of this plan. The Regulation also requires that detailed procedures and measures are to be followed for each Crisis Level.

10.3. The Gas Safety (Management) Regulations 1996 (GS(M)R) requires NGGT and the GDN Operators to establish adequate arrangements for dealing with supply emergencies. GS(M)R defines a supply emergency as an emergency endangering persons and arising from a loss of pressure in a network or any part thereof.

10.4. Gas emergencies are subject to the GS(M)R. Whenever there is more than one company acting as a gas transporter these regulations require the appointment of a Network Emergency Co-ordinator (NEC). The NEC must have a safety case accepted by the Health and Safety Executive. The NEC then uses this safety case to discharge their obligation of minimizing the risk of a supply emergency happening, or if that is not possible minimizing the duration.

10.5. The NEC directs all gas industry players in the event of a Network Gas Supply Emergency (NGSE), defined as a potential or actual supply emergency on the NTS. The NEC is legally independent of National Grid and other parties under GS(M)R. In Northern Ireland such arrangements are effectively mirrored with GSMR(NI) and the Northern Ireland Network Emergency Coordinator (NINEC), currently Phoenix Gas. The NINEC and the Primary Transmission System Operator (TSO) - Premier Transmission Limited - play the key roles when co-ordinating the response to an emergency.

Crisis Levels

10.6. There are different classifications of NGSE and the NEC may declare up to four stages of a NGSE. These classification levels sit alongside the crisis levels established under Regulation 2017/1938, as defined in paragraph 3.4. BEIS determines the levels set out in 2017/1938 and tells stakeholders, including the European Commission. Figure 9 shows the different classifications of NGSE, the corresponding crisis levels, and indicates the possible

actions at each stage of the NGSE that may be implemented by NGGT as part of the emergency strategy authorised by the NEC.¹

EU Regulation Crisis Levels ²	NGSE Emergency Stage ³	Gas Deficit: Insufficient Gas Supplies Available to the NGGT		Critical Transportation Constraint in the NGGT
		Gas Deficit Emergency	GS(M)R Monitor Breach	
Early Warning	NGSE not declared	-	-	-
Alert	1 (Potential)	<ul style="list-style-type: none"> - Emergency Spec Gas - NGGT Linepack - Distribution Network Utilisation: Distribution Network Storage & Emergency Interruption - Public Appeals 	<ul style="list-style-type: none"> - Instruct shippers & storage operators to amend storage flows - Public Appeals 	<ul style="list-style-type: none"> - Emergency Spec Gas - NGGT Linepack - Distribution Network Utilisation: Distribution Network Storage & - Emergency Interruption - Public Appeals
Emergency	2	<ul style="list-style-type: none"> - National Grid Gas plc's participation in the On The Day Commodity Market (OCM) will be suspended - Maximise supplies - Firm Load Shedding 	<ul style="list-style-type: none"> - National Grid Gas plc's participation in the OCM will be suspended - Maximise Supplies - Firm Load Shedding 	<ul style="list-style-type: none"> - Maximise Storage - Firm Load Shedding
	3	Allocation & Isolation		
	4	Restoration		

Figure 9 – Network Gas Supply Emergency Classification

¹ T/PM/E1 – National Gas Supply Emergency Arrangements refers.

² BEIS declares these stages and notifies the European Commission & industry.

³ The NEC declares these stages and notifies BEIS & industry.

Action	Definition
Emergency Spec Gas	A transporter must not convey gas in the network unless it complies with the requirements specified in GS(M)R Part I of Schedule 3, Regulation 8(1). However, the NEC may where it is necessary to prevent or delay the occurrence of a NGSE authorise gas not conforming with Part I of Schedule 3 to be conveyed in the network if the gas conforms with the requirements of GS(M)R Part II of Schedule 3, Regulation 8(2).
NGGT Linepack & Distribution Network Utilisation: Distribution Network Storage & Emergency Interruption	During stage 1 all usable primary system linepack will be utilised by the primary transporter. During the process of collecting data all secondary transporters will indicate to the primary transporter how much storage they have available. At stage 1 the primary transporter may ask the secondary transporters to release this storage by reducing the amount of gas they take from the primary system.
Instruct shippers & storage operators to amend storage flows	In the event that there is likelihood that the safety monitor will or has been breached the NEC will seek co-operation from shippers and storage operators to curtail delivery of storage gas to the primary system. Shippers and storage operators should amend their flows in accordance with the primary transporter's request and undertake demand reduction measures or increase supplies to the Network to maintain a supply-demand balance.
Public Appeals	Public appeal targets domestic and smaller industrial/commercial consumers (<25,000 tpa). The method for communicating the public appeal messages could include public appeal broadcasts over the radio or television or loud hailer vans touring the streets. Posters and leaflets drops should also be used. Public appeals are made in two phases: (i) An appeal to "use as little gas as possible". (ii) An appeal "to stop using gas".
Maximise supplies	If it has been identified that there are additional beach gas supplies available, then the primary transporter will request that shippers should source as much gas as they can and arrange for delivery to the relevant entry facilities. If it has been identified that there is additional primary system storage gas available over and above that already being delivered or being made available for use the NEC will request the primary transporter to make arrangements for the delivery of this storage gas.
National Grid Gas plc's participation in the On The Day Commodity Market (OCM)	The primary transporter will contact the operator of the OCM to inform of the suspension of National Grid's role as residual system balancer with immediate effect. Shippers will continue to be able to trade.

Action	Definition
will be suspended	
Firm load shedding	<p>Used by transporters to secure a graduated and controlled reduction in firm demand on all or part of their systems in order to keep the system securely pressurised.</p> <p>The primary transporter will identify in the emergency strategy the volume and location of the firm load shedding required. If the emergency strategy identifies the need for load shedding in a secondary system, the primary transporter will communicate with the relevant gas transporter the volume to be shed.</p>
Allocation	<p>If insufficient gas is available to supply the network or parts of the network as applicable, even with firm load shedding, the NEC allocates the available gas to secondary systems and must instruct the primary transporter to physically restrict the offtake of gas by secondary systems to the allocated amount. If secondary transporters are unable to maintain acceptable minimum pressures in their systems, they must apply to the NEC via the primary transporter for an increased allocation.</p>
Isolation	<p>If the NEC is unable to increase the allocation of gas to one or more secondary systems, it must in consultation with the primary and secondary transporters and BEIS review the allocation of gas in order to match network supply and demand by selected system isolation. Isolation of these lower pressure systems should result in a loss of gas pressure to consumers.</p>
Restoration	<p>If the supply-demand balance is improving, the primary transporter will develop a strategy to progressively revoke the measures taken during the various stages of the emergency. If allocation and isolation actions have been taken during the emergency, it is likely to take a considerable amount of time to restore all affected customers. When the supply situation has returned to normal and restoration has been completed, the NEC must notify the primary transporter of the revocation of the NGSE.</p>

10.7 This represents the list of all actions that may be taken by the NEC during an NGSE. The dynamic nature of the gas network and supply is such that the utilisation of each action will depend on the event. However, the agreed process demonstrates the order in which these actions should be considered. The table below from the industry T/PM/E/1 Procedure for a Network Gas Supply Emergency (E/1) (page 19) details each stage of an NGSE and the market arrangements in each.

Stage	Critical Transportation Constraint	Gas Deficit Emergency	Safety Monitor Breach
Normal Operation	Normal commercial arrangements in place.		
1	Normal commercial arrangements in place.		
2 3 4	<p>Uniform Network Code Section Q provisions apply but only for additional storage gas.</p> <p>Normal commercial regime continued.</p>	<p>Uniform Network Code Section Q provisions apply.</p> <p>National Grid GSO will suspend its participation in the commercial market regime.</p>	<p>Uniform Network Code Section Q provisions apply.</p> <p>National Grid GSO will suspend its participation in the commercial market regime.</p>
Normal Operation	Normal commercial arrangements in place for storage gas 06:00 hours on gas day following the declaration of the end of the NGSE.	Normal commercial arrangements in place 06:00 hours on gas day following the declaration of the end of the NGSE.	Normal commercial arrangements in place 06:00 hours on gas day following the declaration of the end of the NGSE.

Overview of gas response sector

10.8. The Regulation 2017/1938 requires that natural gas undertakings and industrial gas consumers are given sufficient opportunity to respond at each crisis level.

10.9 Under the licences to operate, granted to National Grid Gas Transmission and the Gas Distribution Networks Operators by Ofgem, the natural gas undertakings are required to prepare a Uniform Network Code (UNC). The UNC:

10.10 Sets out the commercial relationship between the undertakings and the users of their systems.

10.11 Covers arrangements for the timely exchange of information between the undertakings and system users to permit the safe and efficient operation of the network.

10.12 Sets out arrangements to incentivise system users to deliver sufficient gas to the system to meet their customers' requirements.

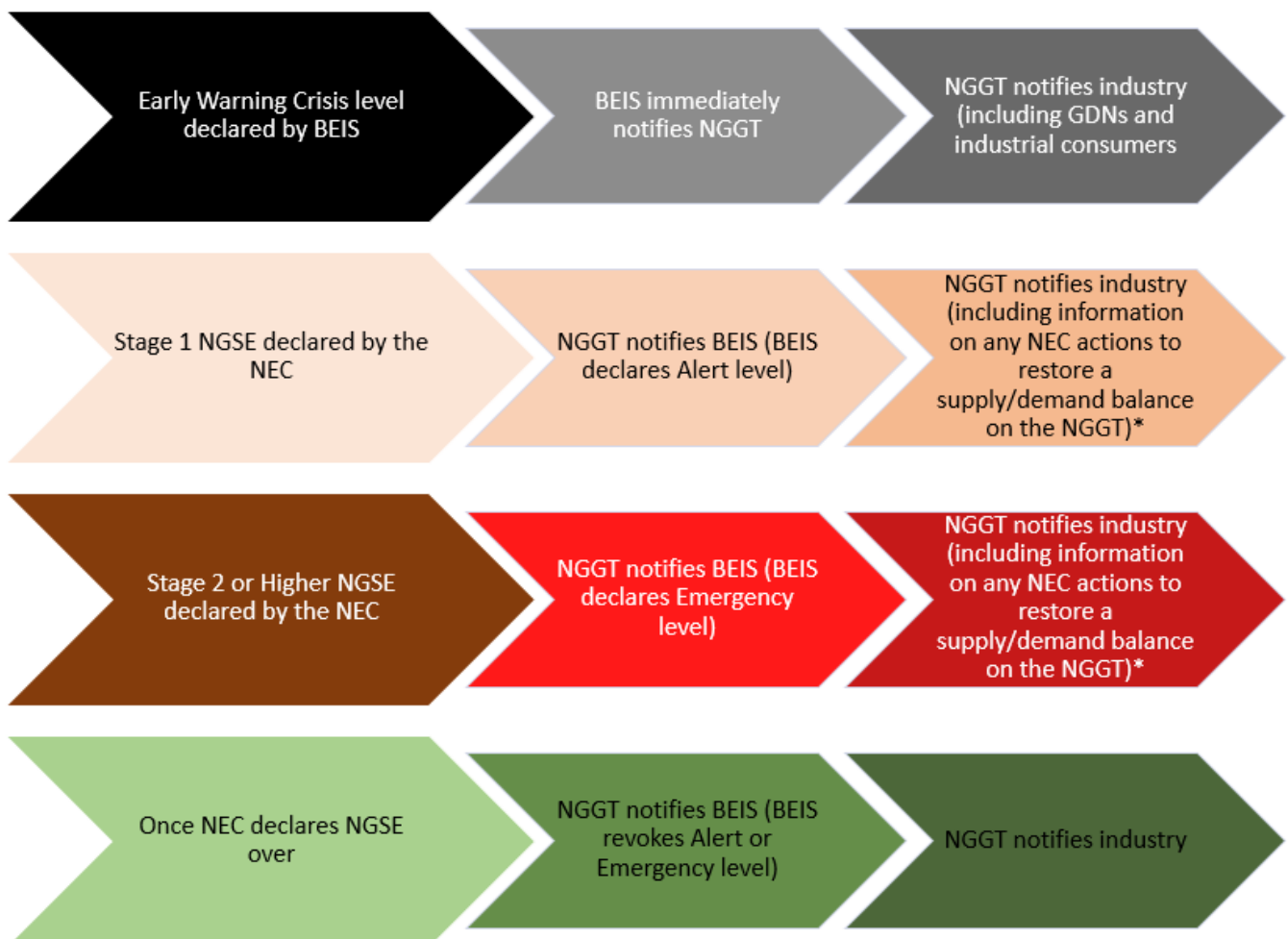
10.13. National Grid Gas Transmission, via its Gas National Control Centre, continuously monitors the physical and commercial operation of the NTS. The GDN Operators, via their Distribution Network Control Centres, continuously monitor the physical operation of their high pressure gas distribution networks.

10.14 NGGT is responsible for providing information to system users to allow them to deliver sufficient gas to the system to meet their customers' requirements. This includes providing forecast gas demand information for the NTS for the current and following gas days.

10.15 On an hourly basis throughout the gas day National Grid will publish information to system users on the current supply/demand position on the NTS. This information is published on a number of systems, including the Gemini commercial system; NGGT and system users make use of to exchange information with each other and the National Grid website.

10.16 NGGT also keeps all industry participants, including natural gas undertakings and industrial gas consumers, updated before and during the gas day of the supply/demand balance on the NGGT. Detailed information on the current supply/demand balance on the NTS is made available via the National Grid website. Examples of the information provided on the National Grid website include forecast and actual instantaneous physical flows being delivered to the NTS from the beach terminals, LNG importation terminals and interconnectors.

Activation of a response



*The actions authorised by NEC will be dependent on the cause and severity of the emergency

Figure 11 Flow chart showing the activation of a response.

Safety Cases and procedures

10.17. EU Regulation 2017/1938 requires that detailed procedures and measures are to be followed for each Crisis Level.

10.18 Domestically, the Gas Safety (Management) Regulations 1996 (GS(M)R) requires NGGT and the GDN Operators to establish adequate arrangements for dealing with supply emergencies. GS(M)R defines a supply emergency as an emergency endangering persons and arising from a loss of pressure in a network or any part thereof. A Network Gas Supply Emergency has been categorised by the NEC as a potential or actual supply emergency on the NGGT.

10.19. GS(M)R requires the NEC to prepare a safety case. The NEC's safety case describes the arrangements established by the NEC for co-ordinating the actions of relevant industry participants, including the GDN Operators, to prevent a supply emergency occurring or to minimise the safety consequences where one develops.

10.20 NGGT and the GDN Operators are also required under GS(M)R to prepare safety cases for their own networks. These safety cases describe the arrangements established by NGGT or the GDN Operators to manage an NGSE or LGSE and should be consistent with the arrangements within the NEC safety case.

10.21. The NEC arranges for the preparation of the Procedure for Network Gas Supply Emergency. The purpose of this procedure is to provide a measured, appropriate and co-ordinated response to an NGSE in accordance with the requirements of the NEC safety case. The procedure describes the causes and classifications of an NGSE, the arrangements NGGT has in place for managing the NGSE, the possible stages of an NGSE and the actions that could form part of the strategy for resolving the emergency. The procedure is made available to all industry participants via publication on the National Grid website.⁴

10.22. There are different classifications of NGSE and the NEC may declare up to four stages of a NGSE. Figure 9 above shows the different classifications of NGSE and indicates the possible actions at each stage of the NGSE that may be implemented as part of the emergency strategy, subject to authorisation by the NEC, to resolve the emergency.

10.23. NGGT and the GDN Operators have also prepared detailed procedures describing the arrangements they have in place for managing an NGSE. Other industry participants are expected to establish and maintain procedures for responding to gas supply emergencies in accordance with their statutory or regulatory obligations and these procedures should align with the Procedure for Network Gas Supply Emergency and in turn the NEC Safety Case.

10.24. In addition, the GDN Operators have prepared Procedures for Managing a Local Gas Supply Emergency. The purpose of this procedure is to provide a measured, appropriate and co-ordinated response to a LGSE in accordance with the requirements of the GDN Operator's safety case.

10.25. The emergency procedures are reviewed on a regular basis and are subject to periodic testing to ensure they remain suitable for use during an NGSE and/or LGSE and support NGGT and the GDN Operators in meeting their statutory safety obligations including GS(M)R.

10.26. The NEC will run an annual cross-industry/HMG exercise to test the emergency arrangements in place to manage an NGSE as part of its safety case obligations. The NEC will prepare a report providing the results of these exercises and identifying recommendations to improve the emergency arrangements which will be made available to all industry participants by the HSE.

⁴ <https://www.nationalgridgas.com/safety-and-emergencies/network-gas-supply-emergencies-ngse>

10.27. Figure 12 indicates the extent to which natural gas undertakings and industrial gas consumers may be affected at each of the crisis levels for any potential or actual gas supply disruptions.

10.28. Regulation 2017/1938 requires that natural gas undertakings and industrial gas consumers are given sufficient opportunity to respond at each crisis level. Figure 13 indicates the likely interactions between the natural gas undertakings and industrial gas consumers and the Competent Authority and Ofgem at each of the crisis levels for any potential or actual gas supply disruptions (though these may differ, depending on the specific situation).

Undertaking	Extent to which affected		
	Early Warning Level	Alert	Emergency
National Grid Gas Transmission	<p>Normal physical and commercial operation of NGGT continues.</p> <p>Increased monitoring of supply/demand situation.</p> <p>Increased provision of information regarding supply/demand situation on NGGT to industry participants.</p>	<p>Stage 1 of an NGSE declared by the NEC.</p> <p>Strategy developed and, following authorisation by the NEC, implemented to achieve an acceptable balance between supply and demand on NGGT.</p> <p>Notify industry participants of actions being implemented as part of authorised emergency response strategy.</p> <p>Continue to participate in energy market as residual system balancer.</p>	<p>Stage 2 (or higher) of an NGSE declared by the NEC.</p> <p>Strategy developed and, following authorisation by the NEC, implemented to achieve an acceptable balance between supply and demand on NGGT.</p> <p>Notify industry participants of actions being implemented as part of authorised emergency response strategy.</p> <p>Suspend participation in energy market as residual system balancer as required (depending on the nature of the emergency).</p>
Gas Distribution Network Operators	<p>Normal physical and commercial operation of GDN continues.</p>	<p>Co-operate with NGGT and the NEC in managing NGSE.</p> <p>May be requested to maximise utilisation of available storage within network and</p>	<p>Co-operate with NGGT and the NEC in managing NGSE.</p> <p>May be requested to implement demand reduction measures</p>

Undertaking	Extent to which affected		
	Early Warning Level	Alert	Emergency
		reduce inputs into network from NGGT.	including firm load shedding. May need to declare and manage a LGSE within network.
Industrial Gas Consumers connected to NGGT or a Gas Distribution Network (including electricity producers)	Normal physical and commercial operations continue.	Co-operate with NGGT and NEC in managing NGSE. May reduce gas consumption requirements in response to energy market signals.	Co-operate with NGGT and NEC in managing NGSE. Co-operate with GDN Operator in managing NGSE and LGSE. Gas consumption may be reduced or suspended. Operations may be subject to directions from Competent Authority making use of emergency powers.

Figure 12: Effect on Gas Undertakings (Note: BEIS informs The European Commission of the Crisis Level in line with Regulation 2017/1938)

	Interaction with BEIS			Interaction with Ofgem		
	Early Warning	Alert	Emergency	Early Warning	Alert	Emergency
National Grid NTS	Notification of declaration from BEIS			Exchange of information regarding impact of crisis level on operation of emergency market.		
	Exchange of information regarding supply/dem and situation on NTS.	Provision of information to BEIS regarding supply/demand situation on NTS and regarding implications of emergency response strategy on NTS operations.		Notification of any temporary impairment of the National Grid NTS to meet regulatory obligations during NGSE.		
				Notification of suspension of National Grid NTS as residual system balancer in energy market.		
Gas Distribution Network Operators (GDN)	Not expected to occur.	Provision of information to BEIS regarding implications of emergency response strategy on GDN operations.	Not expected to occur.		Notification of any temporary impairment of GDN Operator's ability to meet regulatory obligations during NGSE and/or LGSE.	
Industrial Gas Consumers connected to NTS or GDN (including electricity producers)	Not expected to occur.	BEIS may issue directions to electricity producers connected to the NTS or a GDN under emergency powers.	Not expected to occur.			

Figure 13 (Note: BEIS informs The Commission of the Crisis Level in line with the Regulation)

11. Appendix II: Managing Electricity Emergencies – Electricity sector specific arrangements

Introduction

11.1. Specific procedures and requirements for responding to electricity sector emergencies are covered in this Appendix. This Appendix must be read in conjunction with the main body of the plan.

Legislative Framework

11.2. Whilst both public and employee safety is a fundamental requirement of the electricity networks, unlike the gas networks, there is no equivalent legislation which requires the production of Safety Cases and supporting approaches. Detailed emergency interface procedures and protocols are however set out in the Grid Code and Distribution Code (see Appendix III for references).

11.3. The Grid Code covers the requirements in respect of the national electricity transmission system and the Distribution Code distribution networks. These codes are owned and maintained by Industry with changes approved by Ofgem.

11.4. The Codes cover a range of potential emergency scenarios, for example load shedding, whether by voltage reduction or disconnection, and Black Start, the procedure for re-energising the electricity network following a complete shutdown, specifying inter alia, technical details, notification protocols and implementation requirements. The commercial treatment and associated market details are set out in the Balancing and Settlement Code, administered by Elexon, which contains the governance arrangements for electricity balancing and settlement in Great Britain.

11.5. Emergency powers are available to Government via the Electricity Act (1989), the Energy Act (1976), the Electricity Supply Emergency Code (ESEC) and Fuel Security Code (FSC). ESEC outlines the process for ensuring fair rationing of electricity during an electricity supply emergency, using a process known as 'rota load disconnections'. The Fuel Security Code (FSC) provides a mechanism by which Government can instruct power stations as to the level of fuel and other materials which it must keep in stock and also to direct the manner in which they are used.

Operation during a response

11.6. The majority of incidents do not require enactment of this NEP however when a response to a significant electricity emergency (for example a significant generation deficit requiring demand management, large scale loss of supply or Black Start event), is activated the procedures and structures outlined in the main body of this plan will be followed.

11.7. In the event of the need to obtain emergency powers, these would be requested, as necessary, following a decision by the Emergency Response Team. Use of Emergency Powers is generally considered a matter of last resort and therefore strict protocols must be met in order to enact them. For example, in the event that Rota Load Disconnection via the ESEC becomes necessary, an Order in Council signed by the Queen, or nominated deputy, is required to enact these Energy Act powers.

Overseas incident response

11.8 The Foreign and Commonwealth Office is the Lead Government Department for Overseas Incident Assistance. Government departments have been putting plans in place to bring together humanitarian, military support and diplomatic work under a joint unit coordinated by the Foreign Office.

11.9 As part of HM Government response to a request for assistance from another country, following an incident that has caused catastrophic damage to its infrastructure, BEIS (Department for Business, Energy, and Industrial Strategy) would take responsibility as lead government department for all energy issues.

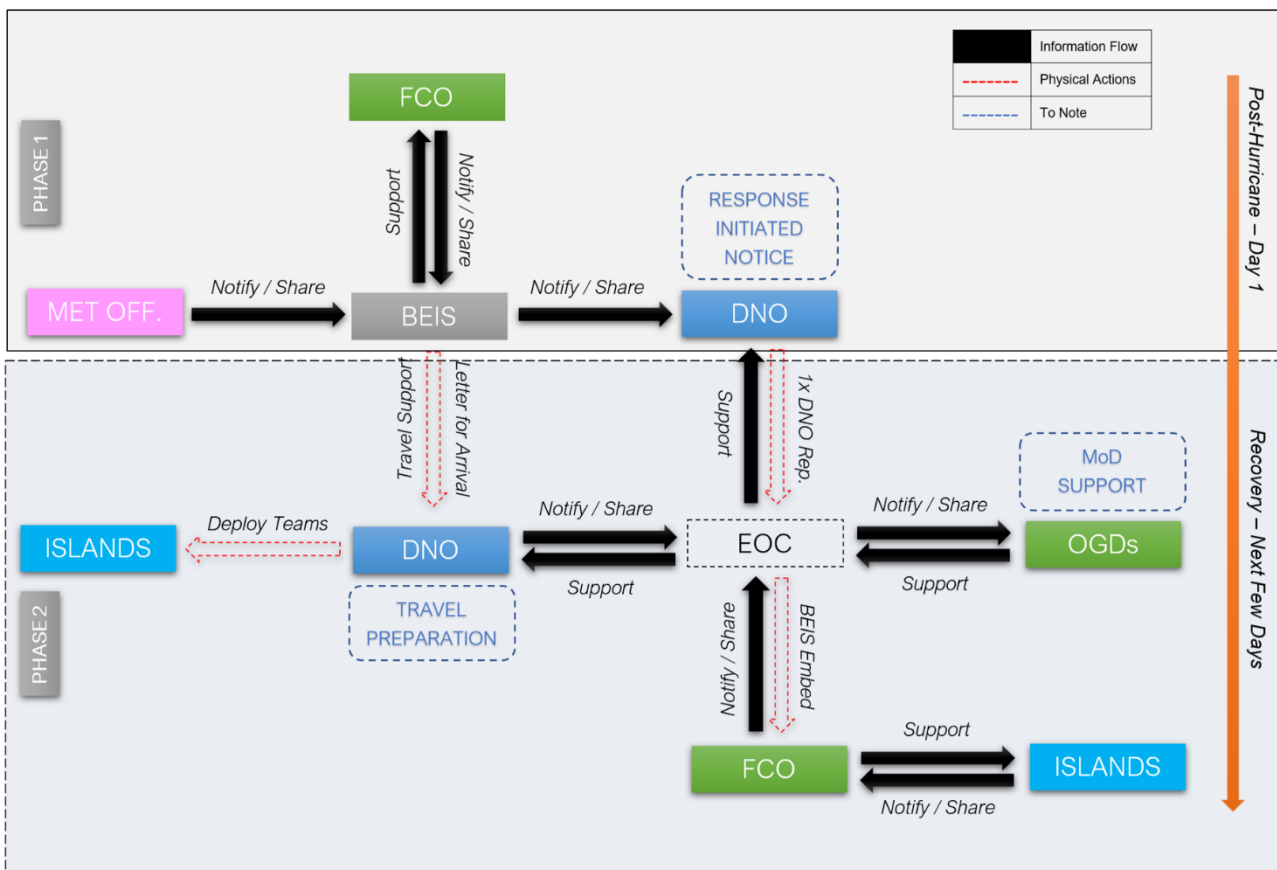


Figure 14 Process Flow Diagram for overseas response

11.10 After the response to Hurricane Irma; where DNOs from the UK travelled to the overseas territories to assist with the recovery. It was agreed that BEIS would work with E3 to develop a strategy to ensure that any DNOs responding to future event would be properly supported by BEIS in working with that territory and its governors. Figure 14 above shows the flow of processes that would take to provide a response.

12. Appendix III: Supporting Procedures & Emergency Powers

12.1. Brief details and references are given for the following statutory provisions, regulations, provisions and procedures relevant to:

12.2 Gas supply emergencies

- The EU Regulation: measures to safeguard security of gas supply 2017/1938
- Energy Act 1976
- The Civil Contingencies Act 2004
- Gas Safety (Installation and Use) Regulations 1998
- Gas Safety (Management) Regulations 1996
- Network Emergency Coordinator Safety Case
- T/PM/E1 – National Gas Supply Emergency Arrangements
- T/PM/E2 – Local Gas Supply Emergency Arrangements
- Uniform Network Code
- Upstream Crisis Management Plan
- National Emergency Plan – Fuel v.3
- Gas Coordination Group

12.3. Electricity supply emergencies

- Energy Act 1976
- Electricity Act 1989
- The Civil Contingencies Act 2004
- Fuel Security Code
- Electricity Supply Emergency Code
- Grid Code
- Distribution Code
- National Emergency Plan – Fuel v.3

12.4. Note: Any reference to a statutory provision or a regulation does not replace the actual text as written in such provision or regulation. All users should refer to the exact text when relevant and obtain professional opinion in the interpretation of such provision or regulation.

Other Documents of use in a Gas supply emergencies and / or Electricity supply emergencies

NAME: The EU Regulation: measures to safeguard security of gas supply 2017/1938

DESCRIPTION:

REGULATION (EU) 2017/1938 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 25 October 2017 concerning measures to safeguard the security of gas supply and repealing Regulation (EU) No 994/2010. The regulation sets various requirements on member states to improve European security of gas supply. These include amongst other things the preparation and publication of an Emergency Plan.

LOCATION: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:295:0001:0022:EN:PDF>

NAME: Energy Act 1976

DESCRIPTION:

This power enables the Secretary of State to control the production, distribution and use of energy in the UK. If there is a domestic incident which is likely to result in “an actual or threatened emergency affecting fuel supplies” in the UK, then an Order in Council under Section 3 of the Energy Act 1976 may be made giving the Secretary of State exceptional powers for “controlling the sources and availability of energy.”

An Order in Council allows the Secretary of State for BEIS to issue a Direction under the Energy Act 1976 which has the effect of restricting, prohibiting or maximising the production and supply of energy.

LOCATION: <http://www.legislation.gov.uk/ukpga/1976/76>

NAME: The Civil Contingencies Act 2004

DESCRIPTION:

The Civil Contingencies Act is part of the Government’s effort to increase the UK’s resilience to a wide range of disruptive challenges, including energy supply emergencies. The Act brings into being a National and Regional Resilience Structure for both planning and responding to these threats.

The Act gives Government the power to control and direct a wide range of resources and activities. The Civil Contingencies Act powers would only be used after all other emergency powers, such as those available under the Energy Act 1976, had been exhausted.

LOCATION: <http://www.legislation.gov.uk/ukpga/2004/36/contents>

NAME: Gas Safety (Installation and Use) Regulations 1998

DESCRIPTION:

These regulations relate to the safe installation and operation of gas equipment downstream of the emergency control valve (maincock), including domestic and non-domestic pipework and appliances.

The regulations make a requirement for a Gas Safe registered and competent person to undertake work on most equipment.

LOCATION: <http://www.legislation.gov.uk/uksi/1998/2451/contents/made>

NAME: Gas Safety (Management) Regulations 1996

DESCRIPTION:

The Gas Safety (Management) Regulations apply to any connected network of pipes used for the conveyance of gas from a gas processing facility, a storage facility or an interconnector, except a connected network of pipes used exclusively for conveying gas to non-domestic premises. The regulations require the appointment of a Network Emergency Coordinator (NEC) to manage a gas supply emergency.

The NEC is required to produce a Safety Case describing the arrangements for managing a gas supply emergency to be accepted by the HSE. The Safety Case describes the arrangements for reducing demand and increasing supply, including the relaxation of gas quality requirements. The Regulations require that relevant persons shall co-operate so far as is necessary with a person conveying gas in a network and with the NEC to enable them to comply with the provisions of the regulations.

LOCATION: <http://www.legislation.gov.uk/uksi/1996/551/regulation/7/made>

NAME: Network Emergency Coordinator Safety Case

DESCRIPTION:

The NEC Safety Case describes four stages of a gas supply emergency;

- Stage 1 - Potential Emergency
- Stage 2 – Actual Emergency, Firm Load Shedding
- Stage 3 – Allocation & Isolation
- Stage 4 - Restoration

It also describes the arrangements for the provision of information, control of the primary systems (NGGT) and communications with industry.

LOCATION: <https://www.nationalgridgas.com/safety-and-emergencies/network-gas-supply-emergencies-ngse>

NAME: T/PM/E1 – National Gas Supply Emergency Arrangements

DESCRIPTION:

T/PM/E/1 is the procedure used to manage a Network Gas Supply Emergency (NGSE) in accordance with the directions of the NEC.

The procedure is owned, maintained and implemented by National Grid as the operator of the primary transportation system, the NGGT.

LOCATION: Procedure for Network Gas Supply Emergency (T/PM/E/1) document.

NAME: T/PM/E2 – Local Gas Supply Emergency Arrangements

DESCRIPTION:

T/PM/E/2 is the procedure used for to manage a Local Gas Supply Emergency (LGSE) and it details the arrangements used during an emergency affecting secondary systems (Gas Distribution Networks) or supplementary systems.

The arrangements for managing a LGSE include:

- Supply Management
- Demand Management
- Isolation of Parts of the Network
- Restoration

There are four different types of LGSE: Minor, Large, Major, and Severe (loss of supply to greater than 50000 consumers)

LOCATION: Not publicly available

NAME: Uniform Network Code

DESCRIPTION:

The Uniform Network Code (UNC) describes the arrangements for the operation of the commercial regime for the gas industry of Great Britain.

Emergency arrangements are described in Section Q of the UNC. National Grid participation in the On The Day Commodity Market (OCM) as a residual balance is suspended at Stage 2 of a Gas Deficit Emergency or a GS(M)R Monitor Breach Emergency. The UNC also includes the arrangements for the emergency cashout process.

LOCATION: <http://www.gasgovernance.co.uk/UNC>

NAME: Upstream Crisis Management Plan

DESCRIPTION:

The Crisis Management Briefing Pack (CMBP) describes the arrangements for the Upstream Oil & Gas Industry for the management of a potential or actual gas supply emergency.

It has two key stages:

- Initial evaluation
- Implementation of the BEIS Upstream Crisis Management Plan.

The CMBP provides a description of the roles and responsibilities of upstream BEIS, National Grid and upstream industry, and the processes used as part of the crisis management organisation at each stage of the alert warning system. The legislative powers under which emergencies will be managed are also set out.

LOCATION: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/256238/Upstream_Crisis_Management_Briefing_Pack_November_2013.docx

NAME: Gas Coordination Group

DESCRIPTION:

The EU Regulation security of gas supply 2017/1938 requires the development of a Preventative Action Plan and this Emergency Plan after obtaining results of a Risk Assessment. The Regulation has also formally established the Gas Coordination Group which may facilitate coordination of security of supply measures in the event of a major supply disruption. This group can also assist Member States in coordinating measures taken at national level.

The Group is composed of representatives of Member States, Agency for the Co-operation of Energy Regulators (ACER), European Network of Transmission System Operators for Gas (ENTSOG), other representative bodies in the industry and relevant consumers, under the chairmanship of the Commission.

The requirement to request the activation of the Gas Coordination Group would be identified by the ERT and actioned by BEIS Gold – A BEIS senior Official.

LOCATION: <http://www.europarl.europa.eu/>

LOCATION: <http://www.legislation.gov.uk/ukpga/1989/29/contents>

NAME: Electricity Act 1989

DESCRIPTION:

Under Section 34 and Section 35 of the Electricity Act 1989, the Secretary of State has the power to issue Directions to operators of certain power stations and to electricity transmission companies as follows:

- a. Power to direct operators of certain Power Stations.
- b. Power to direct Transmission Licensees.

LOCATION: <http://www.legislation.gov.uk/ukpga/1989/29/contents>

NAME: National Emergency Plan – Fuel

DESCRIPTION:

The National Emergency Plan – Fuel describes the arrangements for the management of a fuel supply emergency in Great Britain. It details the role of government and industry as well as the schemes that would be implemented following direction by the Secretary of State to manage demand and maintain supplies to essential services.

Specifically;

- Maximum Purchase Scheme
- Emergency Service Scheme
- Utilities Fuel Scheme
- Bulk Distribution Scheme
- Commercial Scheme

LOCATION: Not publicly available

NAME: Fuel Security Code

DESCRIPTION:

The principal objective of this Code is to provide an administrative structure designed to enable compliance with directions issued under Section 34 or 35 of The Electricity Act 1989 by the Secretary of State.

The FSC enables the Secretary of State to direct operators of power stations (not less than 10MW generated capacity) as to the level of fuel and other materials which it must keep in stock and to direct the manner in which the power station operator uses such stocks; and operates its power stations. It also describes the arrangements for the recovery of exceptional costs.

LOCATION: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/79194/FuelSecurityCode.pdf

NAME: Electricity Supply Emergency Code

DESCRIPTION:

The purpose of the Electricity Supply Emergency Code (ESEC) is to describe the steps which the Government could direct industry to take to deal with an electricity supply emergency.

Specifically, ESEC describes the arrangements for the implementation of rota disconnection and for the protection of priority consumers.

LOCATION: <https://www.gov.uk/government/publications/electricity-supply-emergency-code>

NAME: Grid Code

DESCRIPTION:

The Grid Code is designed to permit the development, maintenance and operation of an efficient, coordinated and economical system for the transmission of electricity, to facilitate competition in the generation and supply of electricity and to promote the security and efficiency of the power system as a whole. National Grid and users of its transmission system are required to comply with the Grid Code. Changes to the Grid Code are subject to approval by Ofgem.

National Grid is the National Electricity Transmission System Operator and is required by its transmission licence to maintain the Grid Code.

LOCATION: <https://www.nationalgrideso.com/codes/grid-code?code-documents>

NAME: Distribution Code

DESCRIPTION:

The Distribution Code covers the technical aspects relating to the connection and use of the distribution licensee's distribution network.

The Distribution Code specifies day-to-day procedures that govern the relationship between the distribution licensee and users of its distribution system for planning and operational purposes in normal and emergency circumstances.

The Distribution Code is also designed to ensure that the distribution licensee can meet its Grid Code compliance obligations.

LOCATION: <http://www.dcode.org.uk/assets/files/dcode-pdfs/Distribution%20Code%20v24.pdf>

NAME: Electricity Safety, Quality and Continuity Regulations (ESQCR)

DESCRIPTION:

The ESQCR specifies the statutory limits of electricity supply voltage and frequency and applies to any generator, distributor, supplier or meter operator, as well as any agent or subcontractor working on their behalf. It covers general adequacy of electrical equipment, a duty of co-operation within the sector and inspection of networks.

The regulations specify safety, quality and continuity aspects of the above including: earthing, substations, underground cables and overhead lines, generation, and supply to other networks.

An amendment in 2006 was made to improve resilience to tree disruptions and include equipment in offshore waters.

Safety aspects are enforced by HSE. Quality and Continuity aspects are enforced by BEIS.

LOCATION: <http://www.legislation.gov.uk/all?title=electricity%20safety%20quality>

13 Appendix IV: Framework for Emergency Planning

The framework for emergency planning established between BEIS, Ofgem and the downstream gas and electricity industry is shown in the following diagram figure 15.

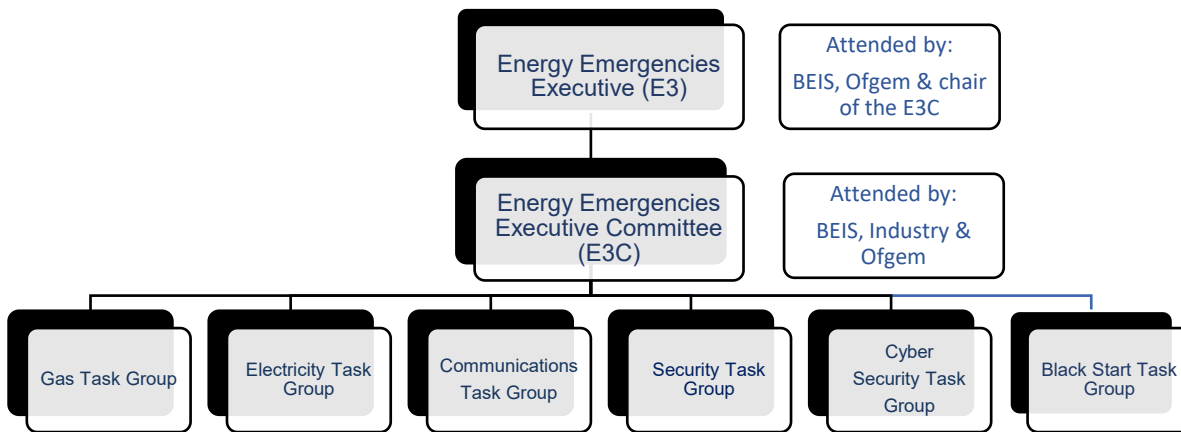


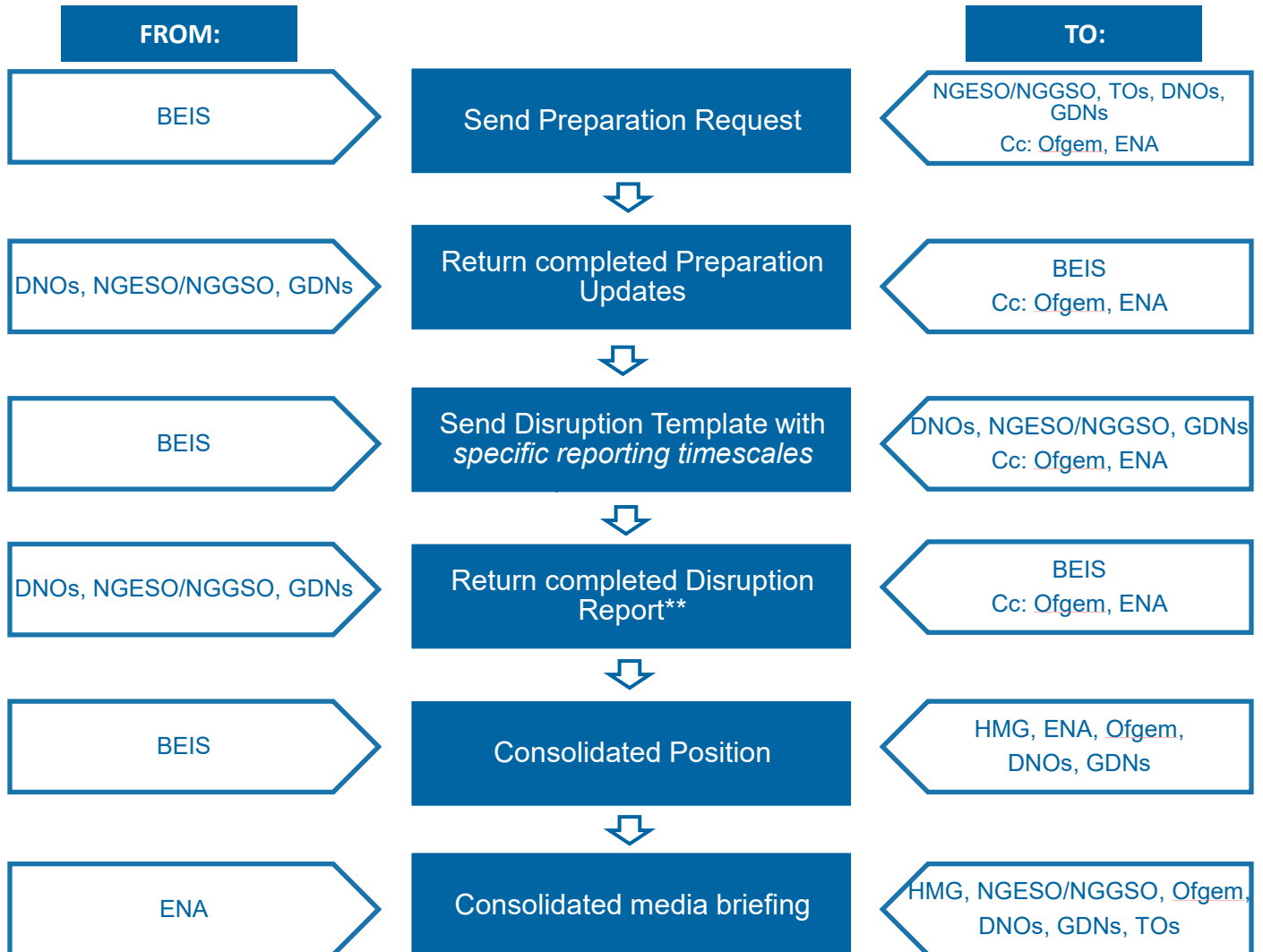
Figure 15 – E3 structures

13.1. E3C is responsible for the development and implementation of electricity and downstream gas emergency arrangements and approves the NEP.

13.2. E3C is responsible for running an exercise programme for the NEP to test the effectiveness of the plan and operational arrangements. Where appropriate this exercise will be carried out in conjunction with other exercises being carried out by industry, government and/or the NEC. A major exercise on the NEP will be carried out periodically including from time to time a test of electricity interactions. Desktop exercises may also be undertaken to ensure that the plan is subject to annual test.

13.3. The scope of major exercises will be agreed with E3 and an Exercise Director appointed. The Exercise Director will provide a full report to E3 and BEIS, including an action plan detailing improvements to existing arrangements and timescales for delivery.

14 Appendix V: BEIS Incident Reporting Framework



Glossary

ACER	Agency for the Co-operation of Energy Regulators
CMBP	Crisis Management Briefing Pack
CNI	Critical National Infrastructure
COBR	Cabinet Office Briefing Rooms
CONOPS	Concept of Operations
CTC	Critical Transportation Constraint
BEIS	Department for Business, Energy & Industrial Strategy
DETI NI	Department of Enterprise, Trade and Investment in Northern Ireland
DNO	Distribution Network Operator
E3	Energy Emergencies Executive
E3C	Energy Emergencies Executive Committee
ERT	Emergency Response Team
ENA	Energy Networks Association
ENTSO-G	European Network of Transmission System Operators for Gas
ESEC	Electricity Supply Emergency Code
ESQCR	Electricity Safety, Quality & Continuity Regulations
FSC	Fuel Security Code
GDE	Gas Deficit Emergency
GDN	Gas Distribution Network
GSMR(NI)	Gas Safety (Management) Regulations (Northern Ireland) 1997
GS(M)R	Gas Safety (Management) Regulations 1996
HMG	Her Majesty's Government
HSE	Health & Safety Executive
LGD	Lead Government Department
LGSE	Local Gas Supply Emergency

LNG	Liquefied Natural Gas
LRF	Local Resilience Forum
NEC	Network Emergency Coordinator
NEP	National Emergency Plan: Downstream Gas & Electricity
NGET	National Grid Electricity Transmission
NGGT	National Grid Gas Transmission
NGSE	National Gas Supply Emergency
NINEC	Northern Ireland Network Emergency Coordinator
NSC (THRC)	National Security Council (Threats, Hazards, Resilience & Contingencies)
OCM	On-the-day Capacity Margin
OFGEM	Office of Gas & Electricity Markets
OGD	Other Government Department
PAP	Preventive Action Plan for gas
SCG	Strategic Co-ordination Group
SGoRR	Scottish Government Resilience Room
SMB	Safety Monitor Breach
SO	System Operator
UNC	Uniform Network Code

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